

From: [Schoenfelder, Robert P.](#)
To: [Delhomme, Keith](#)
Cc: [Zehner, Warren](#); [Sherman, Robert](#); [Nels](#); [Rinehart, Jon](#); [Schoenfelder, Robert P.](#)
Subject: Keith's summary of Homestake pass/fails
Date: Wednesday, February 06, 2013 12:37:15 AM

Keith;

Thanks for this concise wrap-up on the Homestake properties; it hits the important things. I am still in the dark about how Sai's risk assessment process works so that he comes up with such different conclusions than we do.

-Bob

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From: Delhomme, Keith
Sent: Tuesday, February 05, 2013 3:18 PM
To: Sherman, Robert; Warren Zehner (Zehner.Warren@epamail.epa.gov); Jon Rinehart (Rinehart.Jon@epamail.epa.gov)
Cc: Schoenfelder, Robert P.
Subject: RE: additional Homestake data

All,

To be clear, only 2 Homestake properties (not 6) FAILED the Ph 2 Indoor Assessment per our protocol:

BV0117 (Indoor Dose Above Bkgd of 25 mrem/yr), and
BV0071 (Indoor Gamma Scan Measurement > 3xBkgd; Indoor Dose Above Bkgd was only 2.2 mrem/yr)

Sai is likely referring to 6 properties whose indoor exposure rates > 2.5 μ R/hr. This 2.5 μ R/hr is significant, and was highlighted in the Homestake Report, because if the property did NOT fail Ph 1, it signifies a need to conduct a Final Status Survey sampling event (that would not otherwise be conducted...) to quantify precisely the outdoor dose. In Homestake's case, the 6 properties that have indoor exposure rates > 2.5 all Failed Ph 1, so they would be getting excavations and subsequent FSSs. [*This presupposes that we're operating similarly to San Mateo/Oak Canyon, which I know we perhaps aren't.*]

Basically, if a property Failed the Ph 1 Outdoor Assessment, assume the annual dose received total, outdoor and indoor, = 15 mrem/yr from exposure to DCGL of 2.5 pCi/g in soils. The indoor contribution to the dose, per calcs in the QASP, thus 'equaled' 2.5 μ R/hr in exposure(just a coincidence that both #s are 2.5). So properties with higher than 2.5 μ R/hr indoor exposure could remain w/out structural removal if a) outdoor soils received removal action, or b) an FSS of outdoor soils revealed an outdoor dose, when added to the indoor dose, of less than 15 mrem/yr.



9467709

-keith

From: Sherman, Robert
Sent: Tuesday, February 05, 2013 2:55 PM
To: Warren Zehner (Zehner.Warren@epamail.epa.gov); Jon Rinehart (Rinehart.Jon@epamail.epa.gov)
Cc: Delhomme, Keith; Schoenfelder, Robert P.; Sherman, Robert
Subject: additional Homestake data

Warren, Jon,

Here are the tables that include the data you were looking for. It was all in an Excel Worksheet, so I left it there. It doesn't print out very pretty, especially the Montgomery data (if you print it so that all of the columns fit on one page, it is tiny).

The first tab is Soil – Eberline. This is all of the hotspot samples. The 6 houses that failed phase 1 and 2 are highlighted one color, the 42 that failed phase 1 only are highlighted another color. The 20 background samples from Bluewater are in that sheet as well – in the middle, since it is alphabetical by sample number. The backgrounds start with BW.

The second tab is Soil – NAREL. This is the data from the Montgomery lab. Highlighting is the same as in the other table. Basically, Sai and Ghassan wanted a composite sample from each yard. Since we were already taking two 10-point composites for chemical uranium analysis, we just kept the leftovers and composited them. We held on to them until the NAREL Montgomery lab was ready for them, and sent them along. Some of the houses did not have this kind of sample done – we had already started doing phase 1 surveys when we got the request to do this. As you can see, not all samples were analyzed for all isotopes. Also, we don't know what was done via alpha, gamma, beta, or any other analytical method. At the bottom of the spreadsheet are listed the “non-residential” samples. These were collected by people who were not START. We helped package and ship some of them, but that is all. I don't know where they were collected or the rationale.

The next two tabs are radon data. I guess that part is over. Not the easiest read, anyway.

Then we have tabs for Water samples and Vegetable samples. Again, these were collected by people who were not START. I think that the USACE did some of them, if not all. We may have helped with shipping and packaging and all, but we don't know where they were collected. The last tab is a list of all the single points from Homestake. Not at all user friendly, but I left in because it includes the points from the Bluewater background. Background average was 8,651 cpm.

Let me know if this suits your needs, or if you need it tweaked in any way.

robert

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